REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 33-35, 38, 39, 41 and 45-53 are presently active in the present application. Claims 1-32, 36, 37, 40, and 42-44 have been canceled without prejudice. Claims 33 and 41 have been presently amended, and Claims 46-53 have been added.

In the Office Action, Claims 1-3, 6-8, and 31-32 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement; Claims 39-43 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement; Claims 1-3, 6-8, and 31-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sano et al (U.S. Patent No. 6,407,405), in view of Boydston et al (U.S. 6,375,79) and Anders (U.S. Pat. Appl. Publ. No. 2002/0000779).

Claim Amendment Summary

Claim 33 has been amended to incorporate the subject matter of Claim 40. Claim 41 has been amended to be rewritten in independent form including the subject matter recited in original Claim 33. Claims 46-53 have been added, including the subject matter in original Claims 34, 35, 39 and 45. Claims 1-3, 6-8, 31, 32, 37, 40, and 42-44 have been presently cancelled without prejudice. No new matter was added.

Regarding the 35 U.S.C. § 112, first paragraph, rejection to Claims 1-3, 6-8, and 31-32

Claims 1-3, 6-8, and 31-32 have been canceled, making this issue moot.

Regarding the 35 U.S.C. § 112, first paragraph, rejection to Claims 39-43

The Office Action stated on page 3:

> Claim 39 recites "a center of the first flow path intersects with that of the second flow path substantially at a center of the substrate mounted on the supporting table" contradicts with the parent claim 33 which requires the flow path parallel.

Regarding this issue, the feature of Claim 33 which would have probably caused the Examiner to take this position appears to the feature in Claim 33 that a first and a second flow path are substantially parallel to the surface of the substrate mounted on the supporting table. This feature of Claim 33 defines a positional relation between the first flow path and the surface of the substrate, and a positional relation between the second flow path and the surface of the substrate. Meanwhile, Claim 39 defines a horizontal positional relation between the first and the second flow path above the surface of the substrate – – wherein a center of the first flow path intersects with that of the second flow path substantially at a center of the substrate mounted on the supporting table.

The Examiner's attention is invited to Applicants' Figs. 4 and 10B (attached herewith) for two perspective illustrations on these relationships with Figure 4 showing the relationship of the first and second flow paths to the substrate and with Figure 10B showing the intersection of these flow paths substantially at a center of the substrate mounted on the supporting table.

With this explanation, the 35 U.S.C. § 112, first paragraph, rejection to Claim 39-43 should be withdrawn.

Rejections under 35 U.S.C. 103

As clarified, Claim 33 is directed to a substrate processing apparatus. The substrate processing apparatus includes a processing vessel; a rotatable supporting table for supporting

a substrate; a first radical generation unit for supplying the first radicals into the processing space; a second radical generation unit for supplying the second radicals; and a gas exhaust port to exhaust the processing space. The first and the second radical generation unit and the gas exhaust port are provided at the processing vessel, such that the first and the second radicals are respectively introduced from the first sidewall portion toward the second sidewall portion along a first and a second flow path which are substantially parallel to the surface of the substrate mounted on the supporting table. Further, there is provided in Claim 33 a flow adjusting plate interfering with the first flow path to change a flow direction thereof, the first radicals flowing into the processing space along the first flow path whose flow direction has been changed.

The Office Action asserted that the shutter S4 of Sano et al corresponds to the claimed flow adjusting plate. However, all crystal growth in Sano et al is executed under molecular beam epitxay (MBE) conditions. See Sano et al col. 3, line 45. Thus, the Examiner will appreciate that the shutter of Sano et al can only open/close the O radical port and the N radical port, and cannot change the flow path of the O radical or the N radical in the processing space. Hence, Sano et al fail to disclose or suggest a flow adjusting plate interfering with the first flow path to change a flow direction thereof, the first radicals being introduced into the processing space along the first flow path whose flow direction has been changed, as defined in Claim 33.

Further, in accordance with Claim 41, there is provided a flow adjusting plate interfering with the first flow path to supply the first radicals towards a center of the substrate mounted on the supporting table. The shutter of Sano et al only can open/close the O radical port and the N radical port, and cannot change the flow path of the O radical or the N radical toward a center of the substrate. When the shutter of Sano et al is open, the shutter can not interface with the flow path of O radical or N radical. Thereby, Sano et al fail to disclose or